Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 FAX (757) 518-2009
www.deq.virginia.gov

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

Craig R. Nicol
Regional Director

February 14, 2020

Mr. Dennis Slade
Waste Management Administrator
Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, VA 23060

RE: Dominion Yorktown Power Station Ash Landfill
Yorktown, Virginia, Solid Waste Permit #457 (SWP457)
Modification No. 9 of Solid Waste Permit SWP457

Dear Mr. Slade:

Enclosed is the Permit for Dominion Yorktown Power Station Ash Landfill (SWP457). The public participation period ended on November 22, 2019. No comments requiring changes to the draft permit were received; therefore, only incidental editing of the draft permit occurred. The applicant and all persons who commented during the public participation period have been sent a response to their comments.

This permit modification incorporates the requirements of the EPA's Final Rule "Standards for the Disposal of CCR from Electric Utilities" 80 Fed. Reg. 21302 (April 17, 2015) (as amended) (EPA CCR Rule) into SWP457. In accordance with the EPA CCR Rule, the previously approved design of Phases 2 through 4 of the vertical expansion area is no longer allowed; however, the design capacity of Phases 2 through 4 remains available under this permit. A major permit modification to incorporate a liner design meeting requirements of the EPA CCR Rule (40CFR257.70) would be required to utilize this capacity. In order to document this modification, please incorporate a copy of this letter, its attachments, and the following documents into each copy of SWP457.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date of service of this decision to initiate an appeal of this decision, by filing notice with:

David K. Paylor, Director
Virginia Department of Environmental Quality
ATTN: Division of Land Protection & Revitalization
P.O. Box 1105
Richmond, Virginia 23218

In the event that this decision is served to you by mail, three days are added to that period. Please refer to Part Two of the rules of the Supreme Court of Virginia, which describes the required content of the Notice of Appeal, including specification of the Circuit Court to which an appeal is taken, and additional requirements governing appeals from decisions of administrative agencies.

Please note that it is the responsibility of applicant to obtain any other permits or authorizations that may be necessary. If there are any questions, please contact Melinda Woodruff, Land Protection Manager, at (757) 518-2174.

Sincerely,

Melinda Woodruff
Land Protection Manager

Enclosure

cc: Kathryn Perszyk, Solid Waste Permit Coordinator, DEQ-CO
Geoff Christie, Groundwater Program Coordinator, DEQ –CO
Rachel Patton, Groundwater Remediation Specialist, DEQ-TRO
Don Brunson, Solid Waste Permit Writer, DEQ-TRO/CO
Jeff Greer, Solid Waste Permit Writer, DEQ-TRO

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SOLID WASTE FACILITY PERMIT
PERMIT NUMBER 457

Facility Name: Dominion Yorktown Power Station Ash Landfill

Facility Type: CCR Captive Industrial Landfill **Latitude:** N 37°11'13"

Site Location: York County **Longitude:** W 76°28'19"

Location Description: The facility is located approximately 4.5 miles southeast of Yorktown, on State Route 630 (2347 Wolf Trap Road), approximately ¾-mile north of the intersection of State Route 630 and State Route 173 (Goodwin Neck Road), in York County, Virginia. The landfill is situated approximately two miles southwest of the Yorktown Power Station.

Background: The facility is a privately owned/operated captive industrial landfill for the disposal of fossil fuel combustion products (FFCP), consisting primarily of coal combustion residuals (CCR) generated by the Yorktown Power Station. The wastes accepted include those wastes identified in Module II, which is based on the information provided on DEQ Form SW PTB dated October 12, 2017.

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion) has operated the landfill for disposal of FFCP produced at the station since converting its production units from oil to coal as primary fuel in 1984 and 1985. The facility boundary encompasses approximately 73.7 acres, with a landfill's disposal unit boundary of about 48 acres, which is divided into 12 disposal cells, designated as Cells 1 through 12. A major permit modification was approved in October 2009, allowing four vertical expansion phases to be added on top of the 12 disposal cells.

Cells 1 through 12 have received CCRs and are currently undergoing closure. Phase 1 of the vertical expansion, consisting of a 5.5 acre cell, was constructed in 2011 over Cells 4-6, but was never used and has been removed as a part of the Phase B closure. The facility completed Phase A final cover construction of 29.6-acres on Cells 1-3 and 7-11 in November 2017. The facility stopped accepting

FFCP on July 5, 2019 and is currently installing final cover on the remaining areas of the landfill designated as the Phase B Closure area.

The total in place volume of Cells 1 through 12 at closure is 1,762,000 cubic yards. Phases 1 through 4 of the previously proposed vertical expansion consists of approximately 4,724,000 cubic yards and could extend the life of the landfill until 2033; however, a new major permit modification would be required to re-incorporate this volume.

The landfill is subject to the EPA's final rule "Standards for the Disposal of CCR from Electric Utilities" 80 Fed. Reg. 21302 (April 17, 2015) (as amended) (EPA CCR Rule). The landfill is an existing CCR landfill under the EPA CCR Rule as the landfill received CCR after October 19, 2015.

Permit Modification: This permit modification recognizes the existing captive industrial landfill at the Yorktown Power Station as an existing CCR landfill and updates SWP457 to include operating criteria, groundwater monitoring, closure and post-closure care, and recordkeeping, notification, and internet posting requirements applicable to the facility in accordance with the EPA CCR Rule. This modification also incorporates revised Closure, Post-Closure, and Groundwater Monitoring Plans as permit documents. The revised Closure Plan anticipates closure of the landfill prior to construction of Phases 2 through 4 and prior to achieving permitted design capacity.

With this permit modification, the previously approved design of Phases 2 through 4 of the vertical expansion area is no longer allowed in accordance with the EPA CCR Rule; however, the design capacity of Phases 2 through 4 remains available under this permit. Permit condition I.F.7. has been added to require a future permit modification to incorporate a liner design meeting the design criteria of the EPA CCR Rule (40 CFR 257.70) prior to construction of the designated expansion area should plans change.

All previous permit modifications are outlined in detail in Module I, Section I.G.

THIS IS TO CERTIFY THAT:

Virginia Electric and Power Company d/b/a Dominion Energy Virginia
5000 Dominion Boulevard
Glen Allen, VA 23060

is hereby granted a permit to construct, operate, and maintain the facility as described in the attached Permit Modules I, II, V, XI, XII, and XIII and Permit Documents incorporated by reference. These Permit Modules and Permit Documents are as referenced hereinafter and are incorporated into and become a part of this permit.

The herein described activity is to be established, modified, constructed, installed, operated, used, maintained, and closed in accordance with the terms and conditions of this permit and the plans, specifications, and reports submitted and cited in the permit. The facility shall comply with all regulations of the Virginia Waste Management Board. In accordance with Chapter 14, § 10.1 - 1408.1(D) of the Code of Virginia, prior to issuing this permit, any comments by the local

government and general public have been investigated and evaluated and it has been determined that the facility poses no substantial present or potential danger to human health or the environment. The permit contains such conditions and requirements as are deemed necessary to comply with the requirements of the Virginia Code, the regulations of the Board, and to prevent substantial or present danger to human health or the environment.

Failure to comply with the terms and conditions of this permit shall constitute grounds for the revocation or suspension of this permit and for the initiation of necessary enforcement actions.

The permit is issued in accordance with the provisions of 10.1-1408.1.A, Chapter 14, Title 10.1, Code of Virginia (1950) as amended. Variances that have been approved for this facility are included in Permit Attachment I-1.

Issued:	January 11, 1985
Modification No. 1:	October 22, 2001
Modification No. 2:	June 13, 2003
Modification No. 3:	November 21, 2003
Modification No. 4:	September 13, 2006
Modification No. 5:	October 24, 2007
Modification No. 6:	October 21, 2009
Modification No. 7:	April 29, 2016
Modification No. 8:	January 19, 2017

APPROVED: _____
Craig R. Nicol
Regional Director

DATE: 2/14/20
Modification 9

PERMIT MODULES
REFERENCE LIST

PERMIT DOCUMENTS

The documents listed below are hereby incorporated into this permit and the permittee is subject to all conditions contained therein. It is the responsibility of the permittee to properly maintain and update these documents. Any version with a revision date other than as listed below is not considered to be the official approved version and is subject to Department review and approval prior to being recognized as the "permitted" version.

1. *Closure Plan,* prepared by Golder Associates Inc., last revised March 2018.
2. *Post-Closure Care Plan*, prepared by Golder Associates Inc., last revised March 2018.
3. *Groundwater Monitoring Plan*, prepared by Golder Associates, Inc., last revised June 12, 2018.
4. *Dominion Yorktown Power Station Industrial Solid Waste Landfill Vertical Expansion Major Permit Modification*, prepared by Golder Associates, Inc., last revised November 2008 (Previous Permit Attachment VA-1).
5. *Design Report,* prepared by Golder Associates, Inc., dated November 2008 (Previous Permit Attachment VA-2).
6. *Construction Quality Assurance Plan*, prepared by Golder Associates, Inc., dated August 2008 (Previous Permit Attachment VA-3).
7. *Technical Specifications*, prepared by Golder Associates, Inc., dated June 2007 (Previous Permit Attachment VA-4).
8. *Erosion and Sediment Control Plan,* prepared by Golder Associates, dated August 2008, (Previous Permit Attachment VA-5).
9. *Drawings, Fly Ash Structural Fill and Haul Road, Yorktown Generation Station, Virginia Electric and Power Company*, prepared by GAI Consultants, Inc., dated February 4 1982. (Previous Permit Attachment VB-1).

PERMIT MODULE I
GENERAL PERMIT CONDITIONS

I.A. EFFECT OF PERMIT

The permittee is allowed to dispose solid waste on-site in accordance with the conditions of this permit. Any disposal of solid waste not authorized by this permit is prohibited. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Sections 10.1-1402(18), 10.1-1402(19), or 10.1-1402(21) of the Virginia Waste Management Act (Chapter 14, Title 10.1, Code of Virginia (1950), as amended); or any other law or regulation for protection of public health or the environment. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. For purposes of this permit, terms used herein shall have the same meaning as those in the Virginia Waste Management Act, and Part I and other pertinent parts of the Virginia Solid Waste Management Regulations (VSWMR, 9VAC20-81), unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by the generally accepted scientific or industrial meaning of the term or a standard dictionary reference. "Director" means the Director of the Department of Environmental Quality, or his designated or authorized representative.

I.B. DUTIES AND REQUIREMENTS

The permittee shall comply with all conditions of this permit and 9VAC20-81. The effect of this permit is detailed in 9VAC20-81-490, and it shall be the duty of the permittee to ensure the applicable requirements are met. Additionally, the permittee is subject to the recording and reporting requirements detailed in 9VAC20-81-530. In addition to these requirements, the following additional conditions are invoked per 9VAC20-81-430, and shall be complied with:

I.B.1. Noncompliance may be authorized by a schedule of compliance [9VAC20-81-490.D. and 9VAC20-81-490.H.]. Any other permit noncompliance constitutes a violation of Virginia Waste Management Act and is grounds for enforcement action, or for permit revocation, revocation and reissuance, or modification [9VAC20-81-570 and 9VAC20-81-600].

I.B.2 The permittee shall comply with the requirements of this permit and any provisions of RCRA Subtitle D (Title 40, Code of Federal Regulations, Section 258) requirements as they become applicable upon their effective date. This permit may not act as a shield against compliance with any part of RCRA or any other applicable federal regulation, state regulation or state law.

I.B.3. In an enforcement action, it shall not be a defense for the permittee that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.B.4. In the event of noncompliance with this permit, the permittee shall take all reasonable steps to minimize releases of solid wastes or waste constituents to the environment and shall carry out measures to prevent substantial adverse impacts on human health or the environment.

I.B.5. The permittee shall at all times properly operate and maintain all units (and related appurtenances) which are installed or used by the permittee to achieve compliance with the operations manual and the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing, and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary equipment only when necessary to achieve compliance with the conditions of this permit.

I.B.6. The permittee shall furnish to the Director, within a reasonable time, any relevant information that the Director may request to determine compliance with this permit, regulations or the Act. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit by the date specified in the request.

I.B.7. The permittee shall allow the Director, or an authorized representative, at a reasonable time, upon the presentation of appropriate credentials, to:

I.B.7.a. Enter the permitted facility where a regulated unit or activity is located or conducted, or where records must be kept under the conditions of this permit;

I.B.7.b. Have access to and copy any records that must be kept under the conditions of this permit;

I.B.7.c. Inspect any unit, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,

I.B.7.d. Sample or monitor, for the purposes of assuring permit compliance or as otherwise authorized by Virginia Waste Management Act, any substances or parameters at any location within his control.

I.B.8. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample to be analyzed must be the appropriate method from the latest edition of Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846, if available.

Laboratory samples shall be analyzed in accordance with 1 VAC 30-45, Certification for Noncommercial Environmental Laboratories, or 1 VAC 30-46, Accreditation for Commercial Environmental Laboratories.

I.B.9. This permit is not transferable to any person, unless approved by the Director. The Director may require modification or revocation and reissuance of the permit pursuant to 9VAC20-81-490.G. Before transferring ownership or operation of the facility during its operational life, the permittee shall notify the new owner or operator in writing of the requirements of Parts III and V, of the Virginia Solid Waste Management Regulations, the Financial Assurance Regulations, 9VAC20-70, and this permit.

I.B.10. In accordance with § 10.1-1408.2, all facilities must have a Certified Operator as required by the Board of Waste Management Facility Operators-Licensing Regulations, 18 VAC 155-20.

I.B.11. Specifications for all leachate drainage media should specify that the material shall contain no greater than 15% calcium carbonate equivalent. Department literature regarding research on leachate collection media indicates that weight loss greater than 15% results in an unacceptable loss of performance. If a greater percentage is specified or allowed, a demonstration that performance is not adversely affected must be provided to the Department for review and approval.

I.B.12. Recirculation of collected leachate shall not be allowed, in accordance with 9VAC20-81-210.D.3., except when the area to be irrigated is underlain by a composite liner system. Furthermore, in accordance with 9VAC20-81-200.C.3.c., decomposition gas condensate may be recirculated into the landfill provided the facility complies with the composite liner requirement and the leachate control system requirements of Part III of VSWMR. A composite liner system is a system designed to meet the requirements of 9VAC20-81-130.J.1.

I.B.13. The closure cost estimate must reflect the maximum cost of closure at all times. The owner has the responsibility to maintain the closure and post closure cost estimate and associated financial assurance funding as conditions change.

I.B.14. Land-clearing, excavation, and construction activities that involve the disturbance of wetlands or streams shall not commence without authorization from the Virginia Water Protection (VWP) Program and/or Army Corps of Engineers.

I.B.15. The facility shall maintain and follow an approved Erosion & Sediment Control Plan for all land-disturbing activities in accordance with the Erosion and Sediment Control Regulations, 9VAC25-840.

I.C. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The permittee shall maintain a complete copy of the Solid Waste Permit and incorporated Permit Documents at the facility, or another location approved by the director, until post-closure is complete and certified by a professional engineer, and shall maintain amendments, revisions, and modification to these documents. In addition, the facility shall maintain the following additional documents:

I.C.1. Operations Manual with annual certification by Responsible Official

I.C.2. Detailed, written estimate, in current dollars, of the cost of closing the facility, post-closure care and corrective action measures

I.C.3. All other documents/records required and applicable from the following:

I.C.3.a. Monitoring records from leachate, gas, and groundwater monitoring.

I.C.3.b. Inspection records as required from construction/installation, operational, closure, post-closure inspection requirements, including records of weekly and annual inspections required of 40 CFR 257.84(a) and (b).

I.C.3.c. Personnel training records

I.C.3.d. Daily operational records (i.e., solid waste received and processed, fill area records, records of special wastes accepted, a logbook which is a daily narrative account of the activities at the landfill).

I.C.3.e. Construction quality assurance reports, record drawings and engineers certifications for all new liner and/or final cover construction

I.C.4. An approved copy of the complete Part A permit application,

I.C.5. Documentation of the authorization to discharge leachate into the publicly/privately owned treatment works, leachate volumes sent to the POTW, and periodic leachate sampling analytical results.

I.C.6. All records in accordance with 40 CFR 257.105 shall be maintained in the operating record for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, record or study.

I.D. DOCUMENTS TO BE SUBMITTED

In addition to the documents/records/reports to be submitted per the requirements of this permit or 9VAC20-81, the permittee shall also submit the following documents to the Director according to indicated schedules:

I.D.1. Prior to beginning construction, as defined under 9VAC20-81-10, of each Phase of the landfill, the permittee shall submit the following documents:

I.D.1.a. The required location demonstrations and professional engineer certifications required of 40 CFR 257.60 (a) and (b), 257.61 (a) and (b), 257.62 (a) and (b), 257.63 (a) and (b), and 257.64 (a) and (b) indicating that the landfill is in compliance with the location restrictions for new or expanded CCR landfills.

I.D.1.b. In accordance with 40 CFR 257.70 (e), the required certification from a professional engineer that the design of the composite liner or alternative composite liner and leachate collection and removal system meet the requirements of 40 CFR 257.70.

I.D.2. Once construction of each Phase is complete but prior to placing waste, the permittee shall submit the following documents:

I.D.2.a. Authorization from the Hampton Roads Sanitation District or other wastewater treatment plants to discharge the increased volume of leachate and wastewater to the sewerage system and treatment works.

I.D.2.b. Report with supporting documents resulting from quality control/quality assurance activities performed during construction and installation of the liner/leachate collection systems, including the installation contractor's written acceptance of the surfaces to be lined, synthetic liner manufacturer and installer warranties, laboratory test results of the permeability of the clay liner and the drainage media overlying the liner, and representative copies (sufficient to demonstrate responsible control) of the accumulated inspection schedules resulting from the professional engineer's oversight of the construction.

I.D.2.c. In accordance with 9VAC20-81-490.A. and 40 CFR 257.70 (f), certification from a design engineer, who must be a professional engineer licensed to practice in the Commonwealth, that the construction of the facility (including liner and leachate collection and removal systems) has been completed in accordance with the permit, approved plans and specifications, and requirements of 40 CFR 257.70 and is ready to begin operation.

I.D.2.d. Certification (separate from I.D.2.c., above) from the Construction Quality Assurance (CQA) officer that the approved CQA plan has been successfully carried out and that the constructed unit meets all requirements of the permitted CQA plan, in accordance with 9VAC20-81-130.Q. The CQA officer must be a professional engineer licensed to practice in Virginia.

I.D.3. The as-built plans of all new network groundwater and gas monitoring wells shall be submitted as these wells are installed. Information to be included on the as-built

plans shall include, but is not limited to, the total depth of the well, the surveyed elevations of the top of casing and ground surface (or apron), and the length and location of the screened interval and annular space seal. All dimensions are to be shown on well construction schematics.

I.D.5. The facility shall submit all other notifications required of 40 CFR 257.106 (e) through (i) to the Director or delegated authority before the close of business on the day the notification is required to be completed.

I.E. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE DIRECTOR

All reports, notifications, or other submissions which are required by this permit to be sent or given to the Director should be sent to:

Virginia Department of Environmental Quality
Division of Land Protection & Revitalization
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach, Virginia 23462
TRO.LandProtection@deq.virginia.gov

I.F. SITE SPECIFIC CONDITIONS

The provisions of this section are in addition to the permit conditions and regulatory requirements and are specifically developed for this facility. The permittee shall comply with all conditions of this section, as follows:

I.F.1. The final permit is based on permit application submittals (drawings and reports) that may contain the word "proposed' and similarly tentative language. The documents that are incorporated into Permit No. 457 have been evaluated for administrative and technical adequacy and have been approved as proposed. Therefore, any references to a design, construction, operation, monitoring or closure criteria are considered to be approved as proposed.

I.F.2. The facility is subject to the conditions listed in the Part A approval letter dated October 5, 1992.

I.F.3. Groundwater monitoring at this facility will continue under the Modified Assessment Groundwater Monitoring Program as detailed in Module XI of this permit. The facility shall not revert to the requirements of VSWMR First Determination monitoring or 40 CFR 257.94 Detection monitoring until Departmental approval has been granted.

I.F.4. The facility is subject to the U.S. Environmental Protection Agency's Final Rule

on the "Disposal of Coal Combustion Residuals from Electric Utilities" (40 CFR Subpart D—Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments). The applicable provisions of this rule are incorporated within and to the extent a conflict may exist or arise between the requirements of EPA's rule and/or the VSWMR or this permit; the facility shall comply with the more stringent of the two.

I.F.5. In accordance with Condition I.F.4., the permittee shall:

I.F.5.a. Update, amend, or revise, as necessary or required, all design criteria, operating, closure and post-closure documents.

I.F.5.b. Maintain an inspection program to meet the requirements of 40 CFR 257.84.

I.F.6. The facility shall maintain a publicly accessible Internet site (CCR Web site), titled "CCR Rule Compliance Data and Information" as required by 40 CFR 257.107. The applicable information must be posted to the CCR Web site within 30 days of placing the pertinent information required by 40 CFR 257.105 (Permit Condition I.C.6.) in the operating record. The information must remain on the CCR Web site for the period of time provided for in 40 CFR 257.105.

I.F.7. Should the facility pursue construction and operation of the vertical expansion Phases 2 through 4, the facility shall submit and receive approval for a major permit modification to modify the liner design to incorporate a composite liner or alternate composite liner and leachate collection and removal system meeting the design criteria of the EPA CCR Rule (40 CFR 257.70) prior to construction. Accordingly, the modification application shall include revised Closure and Post-Closure Care Plans.

I.G. PERMIT MODIFICATIONS

I.G.1. The permit was modified by a major modification on October 22, 2001 incorporating landfill reclamation into the operations plan. This modification also incorporated the groundwater monitoring, and closure and post-closure permit modules.

I.G.2. The permit was modified by a major modification on June 13, 2003 for updating the groundwater module. Groundwater Protection Standards were not required at that time.

I.G.3. The permit was modified by a minor modification on November 21, 2003 approving the installation of a new service road to minimize traffic and ease access to cells during construction. This modification required a new ditch to route stormwater to the facility stormwater management ponds.

I.G.4. The permit was modified by a minor modification on September 13, 2006 allowing a change in the sequence of ash removal from the landfill cells. This ash removal was associated with Dominion's "ash utilization projects," to beneficially use ash as a substitute for fill materials.

I.G.5 The permit was modified by a minor modification on October 24, 2007 allowing replacing the V-notch weir in the Outfall 003 with a valve structure resulting from reissuance of the facility VPDES permit.

I.G.6 The permit was modified by a major modification on October 21, 2009 allowing a vertical expansion (designated as Phases 1 through 4) of the existing landfill within the limits of the existing waste footprint. The Groundwater Monitoring Plan was revised and updated. The facility was given the ability to alternate back and forth between Phase I, Phase II and the Modified System. Also, the most recent Departmental statistical procedures were incorporated

I.G.7 The permit was modified by a minor modification on April 29, 2016 for revising the facility's closure and post closure care plans in preparation for closure of Cells 1-3 and 7-11 of the landfill.

I.G.8 The permit was modified by a minor modification on January 19, 2017 allowing the replacement of MW-11 with MW-11R.

PERMIT MODULE II
CONDITIONS OF OPERATION

II.A. HOURS OF OPERATION

II.A.1. The normal operating hours are Monday through Friday from 7:00 a.m. to 5:00 p.m.

II.A.2. Emergency conditions or unusual circumstances that require accepting waste outside of the normal operating hours shall be reported orally to the DEQ Tidewater Regional Office at (757) 518-2000 within 24 hours after the event followed by a formal written submission within 5 days.

II.B. WASTES ACCEPTED

The Dominion - Yorktown Power Station Ash Landfill may receive the following wastes, as defined by 9VAC20-81-10, or described below:

II.B.1. Fossil Fuel Combustion Products consisting primarily of coal combustion by-products, as defined under 9VAC20-81-10 which encompass coal combustion residuals (CCR), as defined under 40 CFR 257.53, generated at the Yorktown Power Station.

II.B.2 UNAUTHORIZED WASTE – The Dominion - Yorktown Power Station Ash Landfill may not receive any unauthorized wastes identified in 9VAC20-81-140.B.4. or any of the following: waste oil that has not been adequately absorbed through site cleanup; radioactive wastes; lead acid batteries; pressurized tanks or pressurized containers; automobile gas tanks; friable and some non-friable asbestos-containing waste materials as defined by 9VAC20-81-620; regulated medical waste; explosives or other dangerous materials; and junked automobiles.

II.C. PERMIT LIMITS

The facility has a disposal limit of 750 tons per day as specified in the Part A approval letter.

II.D. COMPACTION & COVER

II.D.1. CCR placement for disposal and removal for beneficial reuse shall be conducted to maintain stability and drainage and to minimize dust generation and truck access problems. The operations shall be conducted to minimize the active area of FFP placement and removal. One other facility cell may be in use, depending on the beneficial use rate and the FFP production rate at the power plant. A maximum of one and one-half active cells may be in use at any time.

II.D.2. The technique and methods used in CCR placement must not result in ponding of precipitation. CCR placement should be performed in gently sloping lifts so that

precipitation from the active cell will drain to the center sedimentation basin at the eastern end of the site. The lift slope shall be gentle enough that the CCR will not erode. Lined let-down structures shall be utilized on slopes to direct concentrated stormwater flows to drainage ditches that lead to the surface impoundments.

II.D.3. Fugitive dust shall be controlled in accordance with the facility fugitive dust control plan.

II.D.4. Final cover construction as outlined in Permit Module XII shall be initiated when the requirements of 40 CFR 257.102 (e) are met. Intermediate cover consisting of one foot of compacted soil, or alternative materials approved by the DEQ, shall be applied on landfill areas that are inactive for 30 days.

II.E. HOUSEKEEPING

II.E.1. The facility shall control odors in accordance with 9VAC20-81-200.D. and/or as necessary to protect human health and the environment.

II.E.2 Fugitive dust and mud deposits on main offsite roads and access roads shall be limited at all time to limit nuisances. Dust shall be controlled to meet the requirements of 9VAC20-81-140.A.12. and 40 CFR 257.80.

II.E.3 Open burning at active landfills shall comply with the requirements of 9VAC20-81-140.A.4. Open burning is prohibited at areas where waste has been disposed or is being used for active disposal.

II.F. SAFETY PROGRAM

Safety hazards to operating personnel shall be controlled through an active safety program consistent with the requirements of 29 CFR Part 1910. Safety training shall be performed annually, at a minimum.

II.G. SELF-INSPECTION PROGRAM

Throughout operation and closure activities, the landfill shall implement an inspection routine including a schedule for inspecting all applicable major aspects of facility operations necessary to ensure compliance with the requirements of this permit. Records of these inspections must be maintained in the operating record and available for review. At a minimum, the following aspects of the facility shall be inspected at the frequencies identified:

II.G.1. On a weekly basis (at intervals not exceeding seven (7) calendar days), inspect for any appearances of actual or potential structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety of the CCR unit in accordance with 40 CFR 257.84 (a)(i).

II.G.2. On a monthly basis, inspect erosion and sediment control features, storm water conveyance system, leachate collection system, safety and emergency equipment, internal roads, and operating equipment.

II.G.3. Within 14 months of initial CCR acceptance in the landfill, and on an annual basis thereafter, a qualified professional engineer shall inspect the landfill in accordance with 40 CFR 257.84 (b).

II.H. OPERATIONS MANUAL REQUIREMENTS

II.H.1. The facility shall be operated in accordance with 9VAC20-81-140, Module II, and an operations manual which has been certified by a responsible official and placed in the facility's operating record.

II.H.2. The operations manual shall include the following items as required by 9VAC 20-81-485:

- A certification page;
- Operations Plan;
- Inspection Plan;
- Health and Safety Plan;
- Unauthorized Waste Control Plan;
- Emergency Contingency Plan; and
- Landscaping Plan.

The Operations Manual shall also reference the following items as required by 40 CFR 257, Subpart D:

- CCR Fugitive Dust Control Plan (40 CFR 257.80) and
- Run-on and Run-off Control System Plan (40 CFR 257.81).

II.H.3. The operations manual shall be reviewed and recertified annually to ensure consistency with the current operations and regulatory requirements.

II.I. LEACHATE MANAGEMENT

Leachate shall be managed in accordance with 9VAC20-81-210, Module V, and the facility's Design Report. If a leachate seep(s) occurs, the owner or operator shall repair the seep(s) and follow the procedures outlined in 9 VAC20-81-210.F.

II.J. LANDFILL GAS MANAGEMENT

The facility does not monitor landfill gas because gas formation is not a concern at the landfill.

II.K. GROUNDWATER MONITORING

Groundwater shall be monitored in accordance with 40 CFR 257.90 through 257.98;

Modules X, and XI; and the respective groundwater permit documents, as applicable. The groundwater monitoring system shall be inspected at a rate consistent with the system's monitoring frequency.

PERMIT MODULE V
INDUSTRIAL LANDFILL DESIGN

V.A. LINER DESIGN

Cells 1 through 12 of the landfill were constructed with the liner system described below, from top down:

- a two-foot bottom ash leachate collection layer (hydraulic conductivity $\geq 1x10^{-3}$ cm/s) with 6-inch diameter perforated leachate collection pipes and
- a 6-inch clay liner (hydraulic conductivity $\leq 1x10^{-8}$ cm/s).

Phase 1 of the vertical expansion was constructed with a liner system described below, from top down:

- an 18-inch bottom ash/sand layer (hydraulic conductivity $\geq 1x10^{-3}$ cm/s) with 6-inch diameter perforated leachate collection pipes;
- a geocomposite leachate collection layer
- a 60-mil HDPE geomembrane

Phases 2 through 4 of the vertical expansion shall be constructed with a composite liner or alternate composite liner and leachate collection and removal system that meets the design criteria for new CCR landfills in accordance with 40 CFR 257.70 of the EPA CCR Rule.

V.B. LINER CONSTRUCTION & CERTIFICATION

[Reserved]

V.C. LANDFILL GAS MANAGEMENT SYSTEM

[Reserved]

V.D. LEACHATE MANAGEMENT

V.D.1. Leachate Storage

All leachate collected in the leachate collection system shall be stored in a 6,000-gallon underground storage tank.

V.D.2. Leachate Disposal

Collected leachate will be pumped from the storage tank to the Hampton Roads Sanitation District (HRSD) sewer system. Alternately, leachate can be pumped from the leachate tank and transferred to the Station's metal cleaning waste pond by truck.

PERMIT MODULE XI
MODIFIED ASSESSMENT MONITORING REQUIREMENTS

The Modified Assessment monitoring program is designed to recognize landfill impacts to the uppermost aquifer at levels which exceed groundwater protection standards and trigger potential groundwater remediation.

Actions undertaken shall be consistent with the requirements of 9 VAC 20-81-250 of the VSWMR and this Permit Module as well as applicable requirements of 40 CFR 257. The Modified Assessment Monitoring Program is designed to meet the detection and assessment monitoring requirements of 40 CFR 257. Where a groundwater requirement is defined in both the applicable provisions of 40 CFR 257 as well as within the VSWMR, the stricter of the referenced requirements shall apply.

XI.A. GROUNDWATER COMPLIANCE POINT

XI.A.1. Uppermost Aquifer

XI.A.1.a Groundwater monitoring shall initiate in the underlying aquifer which meets the definition of 40 CFR 257.53 and encompasses the entire thickness between the first encounter with groundwater (not to include any perched water) and the first encounter with a confining unit forming the lower boundary of the uppermost aquifer prior to initial receipt of CCR by the CCR disposal unit (40 CFR 257.90.(b).(2)).

XI.A.1.b Identification of the uppermost aquifer on site must be determined by completion of a hydrologic investigation meeting the requirements set forth under 40 CFR 257.91.(b).

XI.A.2. Monitoring Well Locations

All wells in the monitoring network must be located at the disposal unit boundary (40 CFR 257.91.(a)(2)) and be screened solely within the zone of saturation of the aquifer, such that at no time during the life of the sampling program are portions of the well screen exposed to the unsaturated zone or capillary fringe zone above the zone of saturation. Monitoring wells shall be screened at depths appropriate to monitor all preferential contaminant migration pathways identified under XI.A.1.b above. Use of nested well pairs screened at different depths below ground surface may be required to monitor all potential contaminant migration pathways identified under XI.A.1.b.

XI.A.3. Location Restrictions

No downgradient groundwater point of compliance monitoring well can be located outside of the permitted facility boundary, nor be screened within CCR material.

XI.B. MONITORING NETWORK REQUIREMENTS

XI.B.1. The owner or operator must obtain a certification from a qualified professional engineer (40 CFR 257.91.(f)) stating that the groundwater monitoring system has been designed, constructed, and meets the requirements of 40 CFR 257.91, including:

XI.B.1.a. No fewer than one upgradient, and three downgradient wells (40 CFR 257.91.(c).(1)) with additional downgradient wells, as needed, to assess groundwater quality passing the waste unit boundary.

XI.B.1.b. If applicable, a multi-unit (combo) monitoring well network consistent with the allowance under 40 CFR 257.91.(d).(1) as long as the Permittee demonstrates conformance with the technical criteria under 40 CFR 257.91.(d).(1).(i – iv).

XI.B.2. Installation, Operations and Maintenance

All wells shall be installed, operated and maintained (40 CFR 257.91.(e).(2)) in a manner which allows them to operate as designed during the life of the monitoring program.

XI.B.2.a. Wells requiring replacement due to non-performance shall be reported to the Department within 30 days of recognizing the non-performance. The notification shall include a site plan depicting the proposed location for the replacement well(s) for Department review.

XI.B.2.b. Wells that require replacement must be replaced prior to the next regularly scheduled groundwater sampling event unless the Director has granted an extension.

XI.B.2.c. Any wells that require abandonment shall be sealed and abandoned in accordance with existing EPA Resource Conservation and Recovery Act (RCRA) guidance as well as any applicable state or local requirements.

XI.B.2.d. No well onsite shall be abandoned without prior approval from the Director.

XI.B.3. Well Designations

The following wells shall be included in the groundwater monitoring network. Number designations including (d) and (s) shall be used when nested pairs are screened as deep (d) or shallow (s) sampling horizons.

Upgradient/Background Wells	Downgradient Wells
09, 04-B, 02-B, MW-1	03-B, 06-B, B-10, 05-B, 11R, B5-B, MW-2

XI.C. AQUIFER INFORMATION

XI.C.1. Data Acquisition - Requirements

XI.C.1.a. Static groundwater elevations shall be:

XI.C.1.a.(1). measured in all monitoring wells prior to purging.

XI.C.1.a.(2). measured to an accuracy of 0.01 foot.

XI.C.1.a.(3). measured each time groundwater is sampled on site.

XI.C.1.a.(4). obtained from all wells in the network within a single 24 hour period to avoid temporal variations/fluctuations in the groundwater table.

XI.C.1.b. Groundwater flow rate and direction shall be:

XI.C.1.b.(1). determined each time groundwater is sampled on site,

XI.C.1.b.(2). calculated using technical methods accepted for use in EPA RCRA groundwater programs.

XI.C.2. Data Acquisition - Response

XI.C.2.a. The Permittee shall evaluate the function of each monitoring network well each time groundwater is sampled. If the evaluation shows that one or more of the well(s) no longer functions in a manner that meets performance requirements of the VSWMR and 40 CFR 257.91, the Permittee shall:

XI.C.2.a.(1). Within 30 days of recognizing the non-performance, notify the Department of the need to modify the number, location, or depth of the monitoring wells, and provide for Department review, proposed locations for new (replacement) monitoring wells keyed to a site plan.

XI.C.2.a.(2). Complete additions or modifications to the network, prior to the next regularly scheduled groundwater sampling event, unless an extension has been granted by the Director for meeting the monitoring system compliance requirements.

XI.D. SAMPLING ACTIONS

The Permittee shall:

XI.D.1. Utilize a groundwater monitoring program and sampling actions that meet the requirements of the VSWMR, 40 CFR 257.90-95 and this Module.

XI.D.2. Utilize EPA SW-846 analytical methods (as amended) conducted at a VELAP accredited laboratory.

XI.D.3. Not filter groundwater samples prior to laboratory analysis.

XI.D.4. Provide final results as total metals (40 CFR 257.93.(h).(2).(i)).

XI.D.5. Provide final results showing total Chromium and (speciation of) total hexavalent Chromium.

XI.E. SAMPLING FREQUENCY

XI.E.1. The Permittee shall, during the active life and post-closure care periods, sample groundwater and analyze for the VSWMR and 40 CFR 257.95 required constituents in all monitoring wells on a semi-annual basis unless an alternate sampling frequency has been approved consistent with the requirements of 40 CFR 257.95.(c).

XI.E.2. The length of the semi-annual sampling period shall be an interval corresponding to approximately 180 days. For the purposes of scheduling monitoring activities, sampling within 30 days of the 180-day interval will be considered ‘semiannual’.

XI.F. SAMPLING LIST

XI.F.1. All 40 CFR 257 Appendix III constituents

XI.F.2. All 40 CFR 257 Appendix IV constituents

XI.F.3 VSWMR Table 3.1 constituents Copper, Cyanide, Nickel, Silver, Sulfide, Tin, Vanadium, and Zinc.

XI.F.4 The VSWMR Table 3.1 Column A organic compounds.

XI.F.5. Previously detected VSWMR Table 3.1 Column B compounds

XI.F.6 Speciation of Chromium (Total Chromium and Hexavalent Chromium)

XI.F.7 The sampling list shall be included in the site Groundwater Monitoring Plan and shall be updated by the owner or operator as directed by the Director.

XI.G. DETERMINATION OF BACKGROUND & GPS

XI.G.1. The Permittee shall establish site-specific background values for the constituents of XI.F in a manner consistent with 40 CFR 257.93.(d) and 94.(b).

XI.G.2. Groundwater Protection Standards (GPS) shall be established using the process defined under 40 CFR 257.95.(h) for the constituents contained under XI.F.2, XI.F.3, XI.F.4 and Boron.

XI.G.3. Groundwater Protection Standards shall be updated as follows:

XI.G.3.a. Federal Maximum Contaminant Level-based GPS, immediately upon promulgation of a new or revised Federal MCL.

XI.G.3.b. Background-based GPS, every two years such that the eight most recent background well sampling results shall replace the oldest eight background well sampling results.

XI.G.4. Use of risk-based GPS shall not be allowed.

XI.G.5. A table of GPS shall be included in the site Operating Record and shall be updated as directed by the Director.

XI.H. STATISTICAL PROCEDURES

A qualified professional engineer must certify (40 CFR 257.93.(f).(6)) the selected statistical method used by the Permittee is appropriate for evaluating the groundwater monitoring data. The certification must include a narrative description of the statistical method selected to evaluate the groundwater monitoring data.

When evaluating the groundwater sampling event results, the Permittee shall:

XI.H.1 within 30 days of completion of the laboratory analysis for each sampling event, determine whether or not there is a statistically significant increase over site background and GPS for each monitoring constituent using an appropriate statistical method meeting the requirements of 40 CFR 257.93.

XI.H.1.a. If no statistical exceedances over GPS are identified in any downgradient well, monitoring will continue under the modified Assessment Monitoring Program.

XI.H.1.b. If there is a statistically significant increase (SSI) over Facility-specific GPS for any constituent listed in XI.F.2, XI.F.3, or Boron, the Permittee will proceed with the actions described in 40 CFR 257.95(g). The Facility will also notify the DEQ of the SSI over GPS within 44 days of issuance of the laboratory report, identifying the constituent(s) SSI over Facility-specific GPS.

XI.H.1.c. If there is a statistically significant increase over Facility-specific GPS for one or more VSWMR Table 3.1 Column B organic constituent, the Permittee will:

XI.H.1.c.(i) notify the DEQ of the potential waste-related GPS exceedance(s) within the timeframe noted in H.1.b and either note whether: 1] an Alternate Source Demonstration (ASD) will be submitted within the VSWMR required timeframe, 2] the result(s) will be compared to pre-waste constituent background concentrations in that well, 3] a request for a 12-month compliance agreement to allow the collection of additional samples as may be needed to perform a trend analysis, or 4] that the Facility will move toward Corrective Action.

XI.H.1.c.(ii). If the exceeding organic constituent result does not exceed its own pre-site operation background value in the subject well, the Permittee will notify the DEQ, within 7 days of this finding and shall continue with the Modified Assessment Monitoring Program. Initiation of Corrective Actions will not be required.

XI.H.1.c.(iii). If an ASD, or the results of a 12-month compliance agreement are approved by the Department to address an SSI, the Facility shall continue with the Modified Assessment Monitoring Program.

XI.H.2. For the purpose of this Permit, laboratory analysis is considered complete upon issuance of the final analytical report under laboratory signature.

XI.I. RECORD-KEEPING REQUIREMENTS

XI.I.1 The owner or operator shall comply with the recordkeeping and notification

requirements of 40 CFR 257.105 and 106, and the public record internet requirements specified in 257.107.

XI.I.2 The Permittee shall retain all records identified under 9 VAC 20-81-250.E.1 as well as 530.B.1 and B.2 throughout the facility active life (including closure) and post-closure care period. The records shall be retained at the facility within an Operating Record (40 CFR 257.105.(a)).

XI.I.3 The Director shall be copied on any groundwater report, notification, request, demonstration, certification or documentation submitted under 40 CFR 257 or 9 VAC 20-81-250.

XI.J. REPORTING REQUIREMENTS

The Permittee shall meet all the reporting and notification requirements of 40 CFR 257 and 9 VAC 20-81-250 as well as 530.B.1 and B.2 throughout the facility active life (including closure) and post-closure care period.

XI.J.1. *Groundwater monitoring reports*

XI.J.1.a. The Annual groundwater monitoring report shall be due no later than 120 days from the completion of sampling and analysis conducted for the second semi-annual event and no later than January 31 of the following calendar year. The Annual report shall include at a minimum the content found under 9 VAC 20-81-250.E.2.a and 40 CFR 257.90(e)(1-5) and shall be submitted in a format consistent with existing DEQ Submission Instructions.

XI.J.1.b A Semi-annual report shall be due no later than 120 days from the completion of sampling and analysis conducted for the 1st semi-annual groundwater sampling event. The Semi-annual report shall include at a minimum the content found under 9 VAC 20-81-250.E.2.b and shall be submitted in a format consistent with existing DEQ Submission Instructions.

XI.J.2. *Facility Background Determination Report*

XI.J.2.a Within 30 days of initially establishing background, re-establishing background due to the installation of new monitoring wells or a change in sampling technique, the Permittee shall report the background values and statistical computations forming the basis for those values in a report entitled *Facility Background Determination*

Report. While in the Modified Assessment program, the background determination results shall be submitted in the timeframe defined under 9 VAC 20-81-250.C.3.b.(2).

XI.J.3. *Well Installation Report*

XI.J.3.a. Within 44 days of well completion, the Permittee shall supply the Director a *Well Installation Report* containing the well number, surveyed elevation, boring log, casing length, total depth, and a completion diagram for each monitoring well, along with a certification from a qualified professional engineer that the monitoring wells have been installed in accordance with the submitted plans.

XI.J.4. *Well Abandonment Report*

XI.J.4.a Within 44 days of well abandonment, the Permittee shall supply the Director a *Well Abandonment Report* containing information including field methods utilized, and a certification from a qualified professional engineer verifying the well abandonment activities met all applicable requirements.

XI.J.5. *Groundwater Protection Standards*

XI.J.5.a. The Permittee shall place the GPS listing in the operating record and update that record as needed upon any changes in GPS values.

XI.K. NOTIFICATION REQUIREMENTS

XI.K.1. *GPS SSI Notifications*, shall be submitted to the Director within 44 days of issuance of the laboratory report and shall indicate which groundwater constituent has shown an SSI over Facility-specific GPS.

XI.K.2. *Well Non-Performance Notifications* shall be submitted to the Director within 30 days of recognizing the non-performance issue.

XI.K.3. *Off-site Plume Notifications* required by VSWMR and 40 CFR 257.95(g)(2) shall be submitted to the affected landowner and copied to the Director within 15 days of identifying the impacts.

XI.L. MISCELLANEOUS ALLOWANCES

XI.L.1. Use of Alternate Site Background. The Permittee may request the Director allow site background to be developed using wells that are not hydrologically upgradient of the disposal unit as long as the request addresses the technical criteria contained

in VSWMR and 40 CFR 257.91(a)(1) and is certified by a qualified professional engineer. Until such time as Director approval is obtained, background shall be determined by sampling wells which are upgradient of the disposal unit.

XI.L.2. Use of Alternate Statistical Method. The Permittee may request the Director allow the use of an Alternate Statistical Method as long as the Permittee can demonstrate the alternate method can meet the technical criteria defined under 9 VAC 20-81-250.D.2 and 40 CFR 257.93. Until such time as Director approval is obtained, the statistical test(s) applied to site groundwater data shall be compliant with 9 VAC 20-81-250.D.1 and 40 CFR 257.93. Whichever method is approved for use at the site, the method should be listed in the facility *Groundwater Monitoring Plan*.

XI.L.3. Verification Sampling. The Permittee, at any time within 30 days of receipt of the laboratory report for a semi-annual sampling event, may obtain verification samples. Undertaking verification sampling shall not alter the timeframes associated with determining or reporting a statistically significant increase.

XI.L.4. Data Validation. The owner or operator may at any time within the 30 day statistical determination period undertake third-party data validation of the analytical data received from the laboratory. Undertaking such validation efforts shall not alter the timeframes associated with determining or reporting a statistically significant increase.

XI.L.5. Table 3.1 Column B Detect Deletions. With the exception of the constituents listed in Table 3.1 Column A and 40 CFR 257 Appendix III and IV, the Permittee may request the Director allow previously detected Table 3.1 Column B constituents to be dropped from the semi-annual monitoring list as long as the request is certified by a qualified groundwater scientist and verifies that the Table 3.1 constituent(s) in question have not been detected for a period of two years.

XI.M. MISCELLANEOUS DEMONSTRATIONS

XI.M.1. To address an exceedance which is the result of something other than a release of CCR constituents, the Permittee may submit a report entitled *Alternate Source Demonstration*, certified by a qualified professional engineer, for review by the Director within 90 days of providing the SSI notification (40 CFR 257.95.(g).(3).(ii)).

XI.M.1.a. If a successful demonstration of an alternate source for the noted increase is made by the Permittee and approved by the Director within the 90 day timeframe, the Permittee may continue in the applicable monitoring program as defined in this Permit Module.

XI.M.1.b. If a successful demonstration of an alternate source for the noted increase is not made by the Permittee within the 90 day timeframe, the Permittee shall take actions required under 9 VAC 20-81-260 and 40 CFR 257 within the required timeframes.

XI.N. PERMIT DOCUMENTS

The Permittee must have Design Plans that include detailed instructions concerning groundwater monitoring. These detailed groundwater monitoring instructions must at a minimum cover the items listed under 9 VAC 20-81-250.A.4.a and other applicable information under 9 VAC 20-81-250. The document containing these instructions, called the *Groundwater Monitoring Plan*, shall be placed in the operating record.

XI.N.1 It shall be the responsibility of the Permittee to update this monitoring plan as needed, which may include actions otherwise defined under 9 VAC 20-81-600.A – F, if changes to the monitoring program have taken place since original Plan development.

XI.N.2. Should information contained in a Permittee authored *Groundwater Monitoring Plan* conflict with any requirement or condition of this Module, the Module condition shall prevail over the language in the Permittee supplied document.

XI.N.3. When the Permittee recognizes a failure to submit any relevant facts or has submitted incorrect information in any groundwater monitoring report to the Director, he shall, within 7 days, submit such omitted facts or the correct information with a full explanation.

XI.O. LIMITATIONS/AUTHORITIES

XI.O.1. The groundwater monitoring and reporting requirements set forth here are minimum requirements. The Director may require, by amending the Permit, any owner or operator to install, operate, and maintain a groundwater monitoring system and program that contains requirements more stringent than those of the Regulations whenever it is determined that such requirements are necessary to prevent significant adverse effects on public health or the environment.

PERMIT MODULE XII
CLOSURE

XII.A. CLOSURE PLAN MODIFICATION

XII.A.1. The owner or operator of the CCR landfill shall have a written closure plan that meets the criteria of 9 VAC 20-81-160.B.1. and 40 CFR 257.102 (b).

XII.A.2. The closure plan shall be amended whenever there is a change in the operation of the CCR landfill that would substantially affect the written closure plan in effect; or before or after closure activities have commenced, unanticipated events necessitate a revision of the written closure plan. All amended closure plans shall contain a written certification by a professional engineer that the plan amendment meets the requirements of 40 CFR 257.102 (b)(4).

XII.A.3. Amended closure plans shall be submitted to the department at least 180 days before the date the facility expects to begin construction activities related to closure. If a closure plan is revised following an unanticipated event or after closure activities have commenced, the plan shall be submitted to the Department in accordance with the schedule under 40 CFR 257.102 (b)(3)(iii).

XII.B. TIME ALLOWED FOR CLOSURE

XII.B.1. The facility shall submit a notification of intent to close to the Department at least 180 days prior to beginning closure of each landfill phase. Additionally, the notification must include a certification by a professional engineer and be placed in the facility's operating record in accordance with 40 CFR 257.102 (g).

XII.B.2. The facility shall close each unit and install a final cover system in accordance with the timeframes specified in 40 CFR 257.102 (e) and (f).

XII.C. FINAL COVER SYSTEM

The landfill final cover design profile from top to bottom is as follows:

- A minimum 6-inch layer of vegetative support soil that is subsequently seeded;
- A minimum 18-inch protective cover layer of compacted soil;
- 250-mil double sided geocomposite drainage layer; and
- 40-mil textured linear low-density polyethylene (LLDPE) geomembrane over prepared subgrade.

This final cover system is considered an alternative final cover system in accordance with 40 CFR 257.102.

XII.D. CLOSURE CERTIFICATION

XII.D.1. Following construction of the final cover system for each unit, certification, signed by a registered professional engineer, shall be submitted verifying that closure has been completed in accordance with the permit, approved plans, specifications, and 40 CFR 257.102 (f)(3). A certification will be required for each capped landfill phase and shall include the results of the CQA/QC requirements under 9VAC20-81-130.Q.1.b.(6).

XII.D.2. Following the closure of all units, certification, signed by a registered professional engineer, shall be submitted verifying that closure has been completed in accordance with the requirements of 9VAC20-81-160.D.5.a. through 5.c. and 40 CFR 257.102 (h), which require posting a sign at the facility entrance and erecting suitable barriers to prevent access; submitting a survey plat to the local land reporting authority; and recording a notation on the deed to the facility property. The deed notation shall be in accordance with 40 CFR 257.102 (i).

PERMIT MODULE XIII
POST-CLOSURE CARE

XIII.A. POST-CLOSURE CARE REQUIREMENTS

XIII.A.1. The facility shall conduct post-closure care of the landfill in accordance with its approved Post-closure Care Plan and 40 CFR 257.104.

XIII.A.1.a. The final cover system shall be maintained in accordance with 40 CFR 257.104 (b)(1).

XIII.A.1.b. The leachate collection and removal system shall be maintained in accordance with 40 CFR 257.104 (b)(2). Leachate shall be managed in accordance with 9 VAC 20-81-210 and the facility's Design Report. If a leachate seep(s) occurs, the owner or operator shall repair the seep(s) and follow the procedures outlined in 9 VAC20-81-210.F.

XIII.A.1.c. Groundwater shall be monitored in accordance with 40 CFR 257.90 through 257.98, Module X, and Module XI and the respective groundwater permit documents as applicable. The groundwater monitoring system shall be inspected at a rate consistent with the system's monitoring frequency.

XIII.A.2. Post-closure Care Plans and subsequent amendments shall meet the requirements of 9 VAC 20-81-170.A.2. and A.3 and 40 CFR 257.104 (d) and shall be submitted to the department for review and approval by the Director. All plans, once approved, shall be maintained in the facility's operating record as required by 40 CFR 257.105 (i)(4).

XIII.B. POST-CLOSURE PERIOD

XIII.B.1. Post-closure care shall be conducted for 30 years. If at the end of the post-closure care period, the CCR landfill is operating under groundwater assessment monitoring in accordance with 40 CFR 257.95, the owner or operator shall continue to conduct post-closure care until the owner or operator returns to detection monitoring.

XIII.B.2. The facility shall continue post-closure care and monitoring until such time that the Department approves termination of the post-closure care and/or monitoring activity.

XIII.C. CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

Not less than 180 days prior to the completion of the post-closure monitoring and maintenance period as prescribed by the Board's regulations or by the Director, the owner or operator shall submit to the Director:

XIII.C.1. Certification, signed by the owner or operator and a professional engineer licensed in the Commonwealth, verifying that post-closure monitoring and maintenance have been completed in accordance with the facility's Post-closure Care Plan; and

XIII.C.2. An evaluation prepared by a professional engineer or professional geologist licensed in the Commonwealth, which assesses and evaluates the landfill's potential for harm to human health and the environment in the event that post-closure monitoring and maintenance are discontinued.

If the Director determines that continued post-closure monitoring or maintenance is necessary to prevent harm to human health or the environment, he shall extend the post-closure period for such additional time as the Director deems necessary to protect human health and the environment and shall direct the owner or operator to submit a revised post-closure plan and to continue post-closure monitoring and maintenance in accordance therewith. Requirements for financial assurance shall apply throughout such extended post-closure period.

XIII.D. POST-CLOSURE CARE NOTIFICATION

The owner or operator shall provide a notification in accordance with 40 CFR 257.104(e) upon completion of the post-closure period.